

PERIODIC REPORTING EXERCISE ON THE APPLICATION OF THE WORLD HERITAGE CONVENTION

SECTION II

State of Conservation of specific World Heritage properties

State Party: INDIA

Property Name: Manas National Park

II.1. Introduction

a.	Country (and State Party if different): India.	001
b.	Name of World Heritage property: Manas Wildlife Sanctuary, now National Park	002
c.	In order to locate the property precisely, please attach a topographic map showing scale, orientation, projection, datum, site name, date and graticule. The map should be an original print and not be trimmed. The site boundaries should be shown on the map. In addition they can be submitted in a detailed description, indicating topographic and other legally defined national, regional, or international boundaries followed by the site boundaries. The State Parties are encouraged to submit the geographic information in digital form so that it can be integrated into a Geographic Information System (GIS). On this questionnaire indicate the geographical co-ordinates to the nearest second (in the case of large sites, towns, areas etc., give at least 3 sets of geographical co-ordinates):	003
	Centre point: 90° 56'30" E 26° 39" N	
	North-west corner: 90° 46′ 30" E 26° 42" N	
	South-east corner: 91°10'2" E 26°37" N	
d.	Give the date of inscription on the World Heritage List and subsequent extension (if applicable): $6-12-1985$	004
e.	Organisation(s) or entity(ies) responsible for the preparation of this report.	
	Organisation(s) / entity(ies):	005
	Person(s) responsible: ABHIJIT RABHA, I.F.S. Address: FIELD DIRECTOR, MANAS TIGER PROJECT City and post code: BARPETA ROAD – 781 315 Telephone: 00 – 91 – 3666 – 261413 Fax: 00 – 91 – 3666 – 260253 E-mail: abhijitrabha @ hotmail.com	
f.	Date of preparation of the report: 22 - 11 - 2002	006
g.	Signature on behalf of the State Party	007
	Signature: Name: ABHIJIT RABHA Function: Conservator of Forests, Site Manager (World Heritage Site), Field Director (Tiger Project) and Director (Biosphere Reserve)	

II.2. Statement of significance

At the time of inscribing a property on the World Heritage List, the World Heritage Committee indicates its outstanding universal value(s), or World Heritage value(s), by deciding on the criteria for which the property deserved to be included on the World Heritage List. Circle the criteria retained for the inscription: Cultural criteria: i - ii - iii - iv - v - viNatural criteria: i - ii - iii - ivWere new criteria added by re-nominating and/or extending the property after the original inscription? YES / NO 010 If YES, please explain: Not applicable 011 Please quote observations concerning the property made by the Advisory Body(ies) during the evaluation of the nomination: Manas Wildlife Sanctuary meets three criteria for World Heritage Natural Properties The Manas river is an outstanding example of geological processes and biological evolution with its huge depositional load and shifting river channels (criteria ii). The reserve also contains superlative natural features of exceptional natural beauty in terms of scenic attractions of forested hills, alluvial grasslands and tropical semievergreen forests (criteria iii). In addition, the Manas provides critical and viable habitat for more and endangered species than any of the Indian sub-continent's protected areas (criteria iv). It is the only or best remaining natural area where sizeable populations of several species can continue to survive (e.g pigmy hog, hispid hare). The current management of the park is of a high standard and the Government of India has clearly demonstrated their commitment to conservation through support of Project Tiger. Available with World Heritage Site Programme, UNESCO. Quote the decisions and observations / recommendations, if appropriate, made by the World Heritage Committee at the time of inscription and extension (if applicable): "The committee expressed its satisfaction that the Indian and Bhutanese governments had cancelled plans for the construction of a hydro-electric dam on the Manas River which would have had severe impacts on the integrity of this property. Committee furthermore encouraged the Government of Bhutan to adhere to the World Heritage Convention and to nominate the contiguous Manas Wildlife Sanctuary in Bhutan which could then form a transfrontier World Heritage Property." 013 Identify the actions taken as follow-up to these observations and/or decisions: No hydro-electric dam over River Manas inside the territory of Bhutan has been built till date.

Please propose a statement of significance by providing a description of the World Heritage value(s) for which the property was inscribed on the World Heritage List. This description should reflect the criterion (criteria) on the basis of which the Committee inscribed the property on the World Heritage List and it should also detail what the property represents, what makes it outstanding, what the specific values are that distinguish the property as well as what its relationship with its setting is, etc.: Manas is an outstanding example of rare combination of Sub-Himalayan Bhabar Terai formation with riverine succession leading up to Sub-Himalayan mountain forest. Biodiversity is expressed through as many as 21 species which are present in the park are listed in the IUCN Red Data Book and habitat mosaic. The conservation history of Manas starts at 1917 when its part was declared as Protected region and hunting, shooting and trapping of animals were prohibited except fishing for sport. This area was increased to 360 square kilometre in 1928 and to further 391 square kilometre in 1955. In 1973 it became the Core Zone of Manas Tiger Project; in 1979 it was identified as potential biosphere reserve by national MAB committee; in 1985 inscripted as World Heritage Site (UNESCO); 1989 a Biosphere Reserve and finally National Park with an area of 519 square kilometre. Recently in 2002 it was designated as the Core Zone of Buxa - Manas Elephant Reserve under Project Elephant. This area is a site of outstanding universal value and the forest compose of Burma monsoon forest. For the extension of a property or the inclusion of additional criteria a re-submission of the property may be considered. This might be regarded as necessary in order to recognize cultural values of a natural World Heritage property, or vice-versa, become desirable following the substantive revision of the criteria by the World Heritage Committee or due to better identification or knowledge of specific outstanding universal values of the property. Should a re-nomination of the property be considered? YES / NO 016 If YES, please explain: Not applicable. 017 Are the borders of the World Heritage property and its buffer zone (still) adequate to ensure YES / NO the protection and conservation of the property's World Heritage values: 018 If NO, please explain why not, and indicate what changes should be made to the boundaries of the property and / or its buffer zone (please indicate these changes also on a map to be attached to this report): Not applicable.

Is the State Party actively considering a revision of the property boundaries or the buffer zone? YES / NO	019
If YES, indicate what is being done to that end:	020
Not applicable.	

II.3. Statement of authenticity / integrity

Have the World Heritage values identified above been maintained since the property's inscription?	021
If NO, please describe the changes and name the causes:	022
Not applicable	
What was the evaluation of the authenticity / integrity of the property at the time of inscription? (Please quote from the ICOMOS / HICN evaluation):	023

inscription? (Please quote from the ICOMOS / IUCN evaluation):

"338 Manas Wildlife Sanctuary.

The committee expressed its satisfaction that the Indian and Bhutanese governments had cancelled plans for the construction of a hydro-electric dam on the Manas River which would have had severe impacts on the integrity of this property. The Committee furthermore encouraged the Government of Bhutan to adhere to the World Heritage Convention and to nominate the contiguous Manas Wildlife Sanctuary in Bhutan which could then form a trans frontier World Heritage Property.

The Centre informed the Committee that the damage caused by the invasion of this Sanctuary by the Bodo tribe in Assam, India, was estimated to be about 50 million Indian rupees (about 1.6 million US dollars). Although the Park infrastructure suffered considerable damage, the habitat in the inaccessible parts of the Sanctuary appeared to be intact. The Committee, while noting that the conditions for introducing normal management and administration regimes for the site may be improving, was nevertheless concerned that a full assessment of damage had not been made and that the Indian authorities have not yet provided a formal written report on the state of conservation of this Sanctuary, despite repeated requests from the Committee since 1989.

The Committee noted with concern the information provided by the Representative of IUCN that the area is still not completely free from encroachment by militants belonging to the Bodo tribe and that illegal cultivation was spreading into parts of the Sanctuary. The Committee concurred with the view of IUCN that Manas Wildlife Sanctuary continues to be in danger of losing the values for which it was granted World Heritage status. The Committee noted with regret that the Indian authorities have not provided a report on the status of conservation of Manas, despite repeated

requests over the last three years, and therefore decided to include Manas Wildlife Sanctuary on the List of World Heritage in Danger, in accordance with the provisions of Article 11, paragraph 4, of the Convention. The Committee requested the Centre to inform the Indian authorities of its decision and reiterate its request for a comprehensive report providing a full assessment of damage to the site and the remedial measures that are being taken." 024 YES / NO Have there been changes in the authenticity / integrity since inscription? If YES, please describe the changes to the authenticity / integrity and name the main 025 causes? The hydro-electric dam over river Manas inside the Indo - Bhutan boundary has not been built by the Royal Government of Bhutan. The original area of the site has been increased from 391 square kilometre to 519 square kilometre by adding the areas of Panbari, Kahitama and Koklabari Reserve Forests areas and elevated to the status of National Park on 23rd September 1990. Further it has remained as Core Zone of Manas Project Tiger, Biosphere Reserve and in 2002 Core Zone of Buxa - Manas **Elephant Reserve.** The ethnic upsurge was neutralised in 1993 with the formation of Bodoland Autonomous Council (BAC). Consequent upon this, the improvement in the security scenario and development of programmes by the Manas National Park Authorities could be carried out. Both the eco-development and biosphere reserve schemes improved the relationship between the fringe villagers and the park authorities. Encroachment was removed in September 2002 and there is no illegal cultivation now in the site area. The earlier scenario does not exist now in Manas as far as security related to the biological attributes is concerned. Activities related to infrastructure development with UNESCO funds were also carried out in the year 2000-2001. Presences of biological attributes are attracting scientific research work in the field level in the park. Report on the status of conservation of Manas was submitted in 2001. The state government has taken steps at political level to resolve the insurgency issue. As a result the negative impact of insurgency has been reduced. Steps are being taken to improve the conservation value. The park management is doing regular patrolling. Recently eight clap traps were seized during routine patrolling by field staff. Are there (further) changes foreseeable to the authenticity / integrity of the property in the 026 near future? YES / NO 027 If YES, please explain and indicate how these changes might affect the World Heritage

values of the property:

Not applicable

II.4. Management

defined (more than one indication possible)?
Legal ($$) Contractual ()
Traditional ()
Traditional ()
Please describe and assess the implementation and effectiveness of these arrangements for
the preservation of the values described under item II.2 at the national, provincial and/c municipal level:
The Legal Provisions under the existing Laws of the country as well as the stat Government provide for boundary delineation prevention of poaching and illegatrade, adequate conservation measures etc. At the state and local level the provision of the law assist in settlement of claims, protection to the habitat and regulation of othe activities not in consonance with the management practices.
In general terms, can this legislative, contractual and/or traditional protection be considere sufficient? YES / NO
Please explain:
The present status of Manas World Heritage Site is that of National Park under the provision of Wildlife (Protection) Act 1972. It provides for highest degree of protection to the state and biodiversity terrain.
Provide a list and summaries of laws and regulations concerning cultural and natural properties protection and management (including extracts of relevant articles from the Constitution, Criminal Law, Law/Regulations on Land-use, Environment Law and Forestr Law, amongst others). Please also attach any documentation available concerning these points: CONSERVATION LAWS:
INDIAN FOREST ACT 1927/ ASSAM FOREST REGULATION, 1891
An act to consolidate the law relating to forests, the transit of forest produce and the dut leviable on timber and other forest produce. WILDLIFE PROTECTION ACT 1972
An act to provide for the protection of wild animals, birds and plants and for the matter connected therewith or ancillary or incidental thereto CRIMINAL PROCEDURE CODE 1973
An and the control is determined at 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
INDIAN PENAL CODE 1860
INDIAN PENAL CODE 1860 An act relating to all crimes and prescribing remedial measures
INDIAN PENAL CODE 1860 An act relating to all crimes and prescribing remedial measures CUSTOMS ACT 1962
All offences against CITES and the Export-Import Policy are punishable under this Act
INDIAN PENAL CODE 1860 An act relating to all crimes and prescribing remedial measures CUSTOMS ACT 1962

FOREST CONSERVATION ACT 1980

An act that restricts the powers of the State Government in respect of de-reservation of forests and use of forest lands for non-forest purpose

WATER ACT 1977

An act to provide for the prevention and control of water pollution and maintaining or restoring of wholesomeness of water

AIR ACT 1981

An act to provide for the prevention, control and abatement of air pollution

ENVIRONMENT POLLUTION ACT 1986

An act to provide for the protection and improvement of environment and for matters connected therewith

BIO-DIVERSITY CONSERVATION ACT 2002

An act to provide for conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of the use of the biological resources and for matters connected therewith

CONSTITUTIONAL SAFEGUARDS

Art 48-A The state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country

Art 51-A(g) It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, wildlife and to have compassion for living creatures

Describe the administrative and management arrangements that are in place for the property concerned, making special mention of the institutions and organisations that have management authority over the property as well as of the arrangements that are in place for the coordination of their actions:

Wildlife wing of Forest department, Government of Assam is mainly responsible for the administration and management of all protected areas in the state of Assam. The Chief Conservator of Forests (Wildlife), Assam is the administrative head of the wing. The Field Director, Tiger Project, Manas is responsible for management and administration of the Manas National Park that executes all management activities.

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Please indicate under which level of authority the property is managed:

Property - Field Director, Manas National Park.

Regional – Chief Conservator of Forests (Wildlife)

National - Ministry of Environment and forests, Government of India.

Please provide the full name, address and phone/fax/e-mail of the entity(ies) directly responsible for the management (conservation, preservation, visitor management) of the property:

Field Director, Manas Tiger Project, Barpeta Road, Assam, India.

Telephone: 00 – 91 – 3666 – 261413 (O)

00 - 91 - 3666 - 260288 (R)

00 - 91 - 3666 - 260289 (Control Room)

Fax: 00 – 91 – 3666 – 260253 E-mail: abhijitrabha @ hotmail.com

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Is it necessary to revise the administrative and management arrangements for the property? YES / NO
If YES, explain why this is the case:
Not applicable.

Is there a management plan for the property? YES / NO	038
If YES, please summarise, indicating if the plan is being implemented and since when:	039
The management plan of Manas World Heritage Site has been prepared for the period from $2003-2013$. The Plan has been submitted to the State Government for approval.	
Please report on legal and administrative actions that are foreseen for the future, to preserve the values described under item II.2 (e.g. passing of legislation, adjusting administrative and management arrangements, implementing or drawing up of a (new) management plan, etc.): The management plan for Manas National Park (2003-04 to 2013-14) has been prepared. The plan includes all administrative and management arrangements to preserve the values described under item 11.2. The objectives, problems, zonations and strategies are clearly defined with prescriptions to execute all activities for effective management of the protected area.	040

Please provide detailed information, particularly in cases where changes have occurred since the inscription of the property, on the following matters:

Conservation

Make reference to all major interventions at the property and describe its present state of conservation:

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(i) The property at the time of inscription covered 391 square kilometres and had a status of Wildlife Sanctuary only. In 1990, neighbouring Reserve Forests of Kahitama, Panbari and Koklabari were added and elevated to the status of National Park with an area of 500 square kilometres. Thereby the Manas National Park gets highest legal protection under Wildlife (Protection) act 1972.

- The Manas National Park has been declared as core zone of Buxa-Manas (ii) Elephant reserve with buffer zones to the east and west with a total area of 2837 square kilometres in the year 2001.
- In 1989, the Manas National Park was also declared as Core Zone of (iii) Manas Biosphere Reserve, hence aided in preservation of attributes.
- There has been a rise in population of elephants in the park (from 500 in (iv) 1993 to 567 in 2002)
- The gang of poachers has been effectively controlled. (v)
- Captive Breeding programme of the grassland indicator species i.e. the (vi) Pygmy Hog is showing good success in terms of in number bred in captivity(93 individuals).

• Ownership	042
Make reference to all major changes in ownership of the property and describe the	
present state of ownership:	
There has not been any change in the ownership.	

Please, give a detailed description of the staffing of the site:	
Site Manager cum Park Director cum Field Director cum Director Biosphere	01
Deputy Conservator of Forests	01
Assistant Conservator of Forests	01
Research Officer	01
Veterinary Assistant Surgeon	01
Veterinary Field Assistant	01
Laboratory Attendent	01
Range Forest Officer	06
Deputy Ranger	05
Forester grade – I	39
Forester grade – II	20
Forest Guard	235
Game Watcher	44
Mahout	27
Grass Cutter	23
Superintendent	01
Upper Division Assistant	03
Lower Division Assistant	06
Stenographer	01
Record Keeper	01
Range Assistant	04
Peon	04
Dak Runner	01
Chowkidar	11
Driver	09
Handyman	03
Boatman	12
Mali	01
Bearer	01
Paniwala	02

Attendent	01	
Jamadar	01	
Sweeper	01	
TOTAL	469	
	·	
Is the staffing level sufficient for adequate management of the property?	YES / NO	044
If NO, what should be done to improve the situation?		045
Not applicable.		

DUC	s the staff need additional training? YES / NO
If Y	ES, what are the training needs for your staff?
regu man	as been realised that there is inadequacy of training at all levels. Therefore that training programmes on matters of biodiversity conservation and wildlife tagement for all staff level at field as well as at reputed training institutions has a proposed. Some of the areas in which training is required are as follows:
1	Wildlife and forest laws
2	Arms training
3]	Management of man-animal conflict
4	Management of ranging pattern of wild animals outside managed habitat
5 .	Jungle craft
6	Wireless telephony
7	First Aid training
8	Population dynamics and wildlife estimation
9	Animal health and nutrition
10	Participatory rural appraisal and micro-planning
11	Field botany
12	Rescue during flood marooned animals
13	Population viability analysis
14	Intelligence gathering
15	Wildlife forensics
16	Camp elephant management etc.
17	Visitor Management & Eco-tourism.

Describe the funding and financial situation of the property, indication sources, level and regularity of financing:

Manas National Park gets funds from Central Government and State Government under various Plan and Non-Plan Budgets. The major expenditure for maintenance of the Park and other anti-poaching activities are incurred from the fund under following Plan and Non-Plan budgets:

PLAN

CENTRAL SECTOR:

- 1 Tiger Project Scheme 50:50
- 2 Biosphere Scheme 100%
- 3 Eco-development Scheme 100%
- 4 Elephant Project Scheme 100%

STATE SECTOR:

1 Conservation of Rhinos in Assam

Some of the infrastructures were damaged during the Bodoland agitation and are prone to repeated damages inflicted by miscreants. Now, most of the work has been focussed on rebuilding and maintenance of the infrastructures In the park. However, the untimely release of the funds are creating serious constraints.

Is the available funding sufficient for adequate management of the property? YES / \overline{NO} | 049

If NOT, describe the financial resources that would be required for the management of the property:

The property requires regular monthly inflow in terms of money for maintenance and running expenses for the management of departmental elephants, vehicles, wireless sets, office expenses, boats, medical treatment, the livestock of surrounding villages. The Site Manager must be given some financial autonomy in the context of better management. Though the main funding has to come from state and union government, the assistance from the international and national NGOs for raising funds for the management of the property is proposed. A proposal for ploughing back the revenue generated by tourism is under consideration of the state government.

Indicate International Assistance from which the property has benefited:

• World Heritage Fund:

Nil.

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• UNESCO International Campaign: Wireless sets, three vehicles, Motor boats and Monetary Aid were received from	0
UNESCO made available for the property. Of this first instalment of Rs. 11,27,000/-had been spent and balance Rs. 15,43,600/- are remaining.	
 National and/or regional projects of UNDP, the World Bank or other agencies: Project Tiger, under Government of India 	(
Man and Biosphere Scheme	
Eco-development around Project Tiger areas.	
Bilateral co-operation:	(
Nil	
• Other assistance:	0
NGO, Wildlife Trust of India has supplied 300 Nos. field kits under Van Rakshak	
Programme.	

Describe the IT (computer) equipment of the site and/or management office and assess its effectiveness:	
Computer is extensively used for report and data compilation & for management of office. It provides presentation of ideas and connectivity through internet.	
Are you using (multiple indications are possible):	
$PC(\bigvee)$	
Apple ()	
Mainframe ()	
Please, give the number of available computers:	
2 (two)	
Does an operational access to the Internet exist? YES / NO	

YES / NO	
YES / NO	

List scientific studies and research programmes that have been conducted concerning the site:

063

At present, field experiments are going on. Most of the research works conducted so far were done as a part of University and Research Programme. The site does not have any specific financial provision for initiating Research Programmes. There is a post of Research Officer in the Park. However, in the absence of financial support, the research priorities have taken a backseat. Following are various research related publications:

- 1 Ecology of Bengal florican (Houbaropsis bengalensis), by Dr. G. Narayan, **BNHS** publication – 1989
- A survey of Piscean fauna in Manas river, a paper by Dr. S.C. Dev and others, BNHS journal –1973
- Botanical survey of Flora of Manas Sanctuary by Hazra, Botanical Survey of India – 1972
- Mammalia of Manas, Ph.D. thesis by Miss C. Changkakoti in the University of Guwahati – 1994
- Ecology of Golden Langur, T. Geei a Ph.D. thesis by K. Dutta in the University of Guwahati - 1995

Describe financial and human resource inputs for the research programmes and or facilities: The Research works conducted so far are either PhD. or Project researchers from the Gauhati University. They either have Indian or foreign funds for the research projects. 065 Describe how the information / results are disseminated? Publication of scientific papers in various journals and popular magazines.

- Through seminars and conferences inside and outside India.
- 3 Information Technology.

- 14 -

Are there	any visitor statist	ics for the site?		YES / NO	
NUMBER YEAR 1995 1996 1997 1998	RS OF VISITOF INDIAN 1424 2626 875 1120	the statistics and attacks TO MANAS NAT FOREIGNER 33 145 40 15	TIONAL PARK TOTAL 1457 2771 915 1135		
1999	1132	10	1142		
2000 2001	1199 1005	0	1199 1005		
2001	3219	0	3219		
10000 - 8000 - 6000 -			- TOTAL - FOREIGNER		
8000 -	1 2 3 4 5	6 7 8 9			
8000 - 6000 - 4000 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	or facilities do yo Vell laid out jeep oot trails for wil	ou have at the propert and Safari trail. dlife spotting and pl	FOREIGNER - INDIAN - YEAR	ge and a dormitory	
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1.	Solar operated bathing cubicles for Nature camp participators.
2.	Cubicles with running water for eco-friendly toilet system for Nature camp members.
3.	Tiger proof netted area for pitching camps inside.
4.	Repairing of existing housing facilities.
5.	More Elephants for elephant ride.
6.	Vehicles.
7.	Interpretation zone outside the National Park.
8.	Guides
s a pi	ublic use plan (tourism / visitor management plan) in existence for the property?

f YES, ple	ase summarise, if NO explain if one is needed:
1 more co	mprehensive tourism plan is called for in respect of the following points :
(i)	Allowing maximum number of tourists in a day with respect to a particular range/routes.
(ii)	Type and conditions of vehicles to be allowed.
(iii)	Execution of agreements with vehicle owners.
(iv)	Registration of vehicles with the park management.
(v)	Minimum & maximum number of tourists in a vehicle.
(vi)	Provision of tourist guides and role to be played by them.
(vii)	Publicity & wildlife/nature Interpretation.
(viii)	Strict adherence of Do's & Don't's by all parties concerned.
(ix)	Advance booking for elephant ridings and number of trips per day to be allowed.
(x)	Dealing with protocol tourism pressure.
(xi)	Involvement of local people in tourism.
(xii)	Strict adherence of fixed time for trip in the park.
(xiii)	Maintaining roster system for tourist vehicles.
(xiv)	Displaying rates of hiring of vehicle, entry and other related charges at suitable places.
(xv)	Ways for accommodation of demands of tour operators & hoteliers.
(xvi)	Addressing the problem of engaging forest staff for accompanying tourists.
(xvii)	Measures to be taken against violation of rules of the National Park.
(xviii)	Mechanism for sorting out all complaints of tourists on hoteliers & other operators, corrupt practices and negligence of different stake holders.

Indicate how the property's World Heritage values are communicated to residents, visitor, and the public (please attach examples of leaflets, videos, posters etc. and print-outs and/o the address of a web-page):	
(look at Various Annexures enclosed)	
Are there educational programmes concerning the property aimed at schools? yes/ NO	
Yes	
If yes, please describe:	
Awareness campaigns amongst the school children of various ages are conducted This includes awareness meetings as well as film shows about wildlife and environmen as well as quiz competitions and also through Pamphlet, Posters and stickers.	

What role does World Heritage inscription play for the site concerning the visitor number, the research programmes and/or the awareness building activities?

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The world inscription that enlists the outstanding natural values of the park enables the visitors to appreciate the importance given to the park. The scientific management and planning process including monitoring and evaluation through UNESCO and other projects has created awareness at all levels resulting into better understanding of various problems and management strategies to overcome the same.

II.5. Factors affecting the property

Please comment on the degree to which the property is threatened by particular problems and risks, such as development pressure, environmental pressure, natural disasters and preparedness, visitor / tourism pressure, number of inhabitants. Also mention all other issues that you see as problematic.

Threats to Manas National Park are:

- 1. Growing land hunger amongst the fringe villages leading to encroachment,
- 2. Organized poaching and smuggling of wildlife articles.
- 3. Illegal felling of trees.
- 4. Grazing.
- 5. Illegal fishing.
- 6. International Border with Bhutan.

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Give an indication if the impact of the factors affecting the property is increasing or decreasing:	(
The possibility of poaching, illegal felling is not ruled out. However, cases of poaching, illegal felling have shown a declining trend.	
What actions have been effectively taken, or are planned for the future, to address the factors affecting the property?	(
Detailed theme plans have been prepared for each of the factors affecting the site in the Draft Management Plan for the years (2003-2013)	

II.6. Monitoring

If applicable, give details (e.g. dates, results, indicators chosen) of any previous periodic or reactive monitoring exercises of the property:

Not available to the reporter

Is there a formal monitoring system established for the site?

YES / NO

18 YES, please give details of its organisation:

The proposed monitoring system will take into consideration of its own reactive and periodic monitoring by actually evaluating damage or gain through observations. In case of losses of botanical attributes indicators will be in cubic meters of volume of timber, type of species belonging to endangered category and area in square meter/hectare followed by an environmental impact assessment exercise. In zoological terms long term and short term losses to the habitat and population dynamics of species listed in IUCN Red data book.

If not already in place, is the establishment of a formal monitoring system planned?

YES / NO

If YES, please outline the functioning of that system, taking into consideration the key indicators you will be asked to define below (see 089 / 090):

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The formal monitoring system is being planned under the draft management plan for which the key indicators would be:

- 1 Population dynamics of large mammals including Rhino, Elephant, wild buffalo, swamp deer and the Tiger.
- 2 Ecosystem dynamics as indicated by erosion/siltation levels, flood levels, grassland habitat change etc.
- **3** Tourist inflow over the years.

Are there any indicators established for monitoring the state of conservation of the property?

YES / NO

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If YES, please provide up-to-date information with respect to each of the key indicators established and/or used. Care should be taken to ensure that this information is as accurate and reliable as possible, for example by carrying out observations in the same way, using similar equipment and methods at the same time of the year and day. Name and describe the key indicators for measuring the state of conservation of this property:

Not applicable.

If NO indicators have been identified and / or used so far, please define key indicators for future use in monitoring:

In case of loses to botanical attributes indicators will be in cubic metres of volume of timber and area in square metres/hectares followed by an E.I.A. exercise. In zoological terms species of various endangered category involved and population affected followed by detail ecologically sound E.I.A. will be the indicators.

Indicate which partners, if any, are involved or will be involved in the regular monitoring exercise:

- 1 Forest Department
- 2 The zoology and botany department (ecology branch) of the University of Guwahati.
- 3 The Wildlife Institute of India, Dehradun.
- 4 NGOs

Identify the administrative provisions for organizing the regular monitoring of the property:

It is within the administrative purview of the Forest Departments hierarchy to conduct monitoring.

Describe what improvement the State Party foresees or would consider desirable in improving the monitoring system:

The monitoring system should be backed by a strong database, which is to be established at the field level. Adequate Data Base Manage Systems and training facilities should be made available for data collection and monitoring.

The monitoring will generate a lot of observation in real time leading to scientific data, that would indicate the health of the property.

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In specific cases, the World Heritage Committee and/or its Bureau may have already examined the state of conservation of the property and made recommendations to the State Party, either at the time of inscription or afterwards. In such cases the State Party is requested to report on the actions that have been taken in response to the observations or decisions made by the Bureau or Committee. Give details, if applicable:

Same as 025

II.7. Conclusions and recommended actions

stories i	ethnic uprising, Manas was one of the greatest and one of the longest success in the Indian conservation history. It is known world wide for its immense values and protection afforded to the Terai grassland ecosystems, cold water river ecosystem and the faunal biodiversity values and attributes.	
	ummarise the main conclusions regarding the management and factors affecting the (see items II.4. and II.5. above):	(
	anagement of the World Heritage Property is exerting on its own; the am possible protective measures to control the factors affecting the property, re:-	
1.Growi	ing land hunger amongst the fringe villages leading to encroachment.	
_	nized poaching and smuggling of wildlife articles.	
3.Presei	nce of anti State insurgents in the neighbouring kingdom of Bhutan.	(
3.Presei		(
3.Preser Give an 1.	nce of anti State insurgents in the neighbouring kingdom of Bhutan.	(
3.Preser Give an 1.	nce of anti State insurgents in the neighbouring kingdom of Bhutan. overview over proposed future action / actions: Strict protectionist measures along with creating mash-awareness regarding	(
 3.Preser Give an 2. 3. 	overview over proposed future action / actions: Strict protectionist measures along with creating mash-awareness regarding attributes is going on and will be the mainstay in the future. Attempts and plan have been exercised to bring the community of the people	(
 3.Presei Give an 2. 3. 	overview over proposed future action / actions: Strict protectionist measures along with creating mash-awareness regarding attributes is going on and will be the mainstay in the future. Attempts and plan have been exercised to bring the community of the people closer—to the site management. Meanwhile NGO's, Environmentalist are to be brought to the fold of	(
3.Presei Give an 1. 2. 3.	overview over proposed future action / actions: Strict protectionist measures along with creating mash-awareness regarding attributes is going on and will be the mainstay in the future. Attempts and plan have been exercised to bring the community of the people closer—to the site management. Meanwhile NGO's, Environmentalist are to be brought to the fold of management for tricky trans-border international affairs.	

Indicate for which of the planned activities International Assistance from the World Heritage Fund may be needed (if any):

- 1. Improved arms and amenities to the staff.
- 2. All round training for combating poaching inside and the illicit trade of flora and fauna outside.
- 3. Bringing people and management together for creation of awareness environmental education.
- 4. Trans-frontier cooperation from field to national level.

Are there any contacts with management units of other properties within or outside your country? YES / NO
Yes.
If YES, please explain:
There is no formal arrangement with the management units of Bhutan. Informal meetings are however organised from time to time.
Please indicate which experience made during the periodic reporting exercise and/or during the on-going conservation / protection efforts of the property could be shared with other States Parties dealing with similar problems or issues:
The field staff has gained expertise in intelligence gathering during the last ten to twelve years due to insurgency activities. The same can be shared with other state parties.
Provide the name(s) and address(es) of organization(s) or specialist(s) who could be contacted for this purpose:
Agency / Organisation:
All the Project Tiger Reserves, Agencies & Organizations dealing with intelligence gathering and enforcement of Wildlife Rules.
• • • • • •
gathering and enforcement of Wildlife Rules.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India. 2 Centre for Environment education, Ahmedabad, India.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India. 2 Centre for Environment education, Ahmedabad, India. 3 Wildlife Institute of India, Dehradun, India.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India. 2 Centre for Environment education, Ahmedabad, India. 3 Wildlife Institute of India, Dehradun, India. 4 Indian Institute of Forest Management, Bhopal, India.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India. 2 Centre for Environment education, Ahmedabad, India. 3 Wildlife Institute of India, Dehradun, India. 4 Indian Institute of Forest Management, Bhopal, India. 5 Chitawan National Park in Nepal.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India. 2 Centre for Environment education, Ahmedabad, India. 3 Wildlife Institute of India, Dehradun, India. 4 Indian Institute of Forest Management, Bhopal, India. 5 Chitawan National Park in Nepal. 6 Wildlife Conservation Society (WCS), USA.
gathering and enforcement of Wildlife Rules. 1 Indian council of Forestry Research and Education, Dehradun, India. 2 Centre for Environment education, Ahmedabad, India. 3 Wildlife Institute of India, Dehradun, India. 4 Indian Institute of Forest Management, Bhopal, India. 5 Chitawan National Park in Nepal. 6 Wildlife Conservation Society (WCS), USA. 7 Smithsonian Institute, USA

11 Assam Remote Sensing Application Centre, Guwahati.	
Person responsible: Address:	
City and post code:	
Telephone: Fax:	
E-mail:	

II.8. Assessment of the Periodic Reporting exercise for Section II

Was sufficient and adequate information made available to the responsible authorities and individuals during the preparation phase of the Periodic Reporting exercise (information given, meetings etc.)?]
Yes.	
Was the questionnaire clear and did it help to comply with the reporting requirements of the State Party?	1
Yes.	
What are the perceived benefits and lessons learnt of the exercise?	1
It is expected to put the whole picture in proper perspective.	
Please describe the expected outcome of the Periodic Reporting exercise and the desired follow-up by the World Heritage Committee:	1
Insurgency has affected the world heritage values of the property. To solve the problem it will be appropriate to have trans-boundary protection and conservation plan between India and Bhutan. WHC may seek international co-operation and funding for this purpose.	

II.9. Documentation attached

The State Party is invited to supply the materials listed below. Please check those items that were attached.

- 1. ($\sqrt{\ }$) Maps and plans showing the general location of the property, its boundary and buffer zone as well as the necessary detail of the property itself (see question 003 for specifications)
- 2. $(\sqrt{\ })$ Photo of general view (aerial view) of the property
- 3. ($\sqrt{\ }$) Illustrations of the state of conservation of the site (photographs, slides and, if available, film/videos)
- 4. () Details of the important aspects of the property (landscapes, animal and vegetable species, monuments etc.)
- 5. () Photos illustrating the main threats to the site and its surroundings
- 6. () Extracts of relevant laws and regulations concerning the protection of cultural and natural heritage at national, provincial and municipal levels
- 7. () Copies of the management plan of the site as well as extracts and/or copies of other plans relating to the site (e.g. emergency plan, use plan, etc.)
- 8. () Indicative bibliography